Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/22**

Paper 2 Geographical Skills **October/November 2022**

MARK SCHEME

Maximum Mark: 60

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2022 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g., in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Question	Answer	Marks
1(a)(i)	A760/main road	**1**
1(a)(ii)	Footbridge/building(s)/non–coniferous trees/Fechan/Fechan Bridge.	**1**
1(a)(iii)	Kel Burn	**1**
1(a)(iv)	Coniferous trees/coniferous forest	**1**
1(a)(v)	344 (metres)	**1**
1(b)(i)	3000–3200 metres	**1**
1(b)(ii)	97–103 (degrees)	**1**
1(b)(iii)	Uneven distribution/no pattern/not evenly distributed; More/dense/large amount in W/SW/less/sparse/small amount in E/SE; On steep (area/slope(s))/less/widely dispersed/scattered on flat(ter) land/gentle(r) (area/slope(s)); Along slopes/linear; Mostly below 200 m (accept <100 m for lower value)/very little above 200m; Along/near rivers/tributaries/valleys/glens/burns/valley sides; Parallel/close to coast in SW/grid square 2156; Lower slopes of Ward Hill; Along A760/the road; East of castle (Kelburn)/in Kelburn Glen/River/largest area around Kelburn Glen/grid square 2256.	**3**
1(c)	School/academy; Hospital; Place of worship/place of worship with spire/minaret/dome; (allow specific type of place of worship) Police station; Fire station; Library; Public conveniences/toilets; Club house/golf club/golf course; (Railway) station; Parking; Cemetery; Marina; Recreational route/National Trail; Ferry.	**3**

Question	Answer	Marks
1(d)	*River:* Source in NE/E/mouth in W/NW; Flows to W/from NE/E; (Many, small) tributaries/confluences/affluents (or description e.g., rivers joining); Variable width/gets wider/narrower/widens; 25–35m wide (at its widest); Steep gradient; Meanders/bends/curves/zigzags/winds; Straight(ened) (channel) to the west/as it goes through Largs; Flows across the beach/sand/shingle (at mouth); Waterfall(s). *Valley:* Steep valley/sides/gorge; Gentle(r)(est) (valley side) in the west/in Largs/lower course/flat in Largs/steeper(est) in middle/upper course; Narrow (valley) floor/bottom; Narrower (valley) in east/upper course/wider in west/lower course; V shaped; Interlocking spurs; Streams running down (valley) sides/tributary valleys/source of tributaries/joins another valley; Meanders/bends/curves/zigzags/winds; Steeper north facing slope; Outcrops/scree/vertical face/cliff.	**7**

Question	Answer	Marks
2(a)(i)	Ethiopia Madagascar Brazil China	**2**
2(a)(ii)	Higher in Africa/lower in N America; (can refer to growth rate or change) (extract if separate sentences for Africa and N America) More variation/categories/differences in Africa/less variation/more consistent/in N America; Some parts/a part of Africa have/has same growth rate as N America; Part of Africa shows decrease whereas N America doesn't.	**3**
2(b)	Birth rate is higher than death rate/high birth rate vs. low death rate; Death rate is falling; Life expectancy is increasing; Infant mortality is falling.	**3**

Question	Answer	Marks
3(a)(i)	Clustered/close together/dense/nucleated/crowded; Terraced/joined together/in rows; (Most are) two/three/multi storey; Large; Small windows/windows in roof/skylight; Sloping roofs; Red/brown/tiled roofs; Old(er)/traditional; Similar design.	**2**
3(a)(ii)	River/wet point **for** washing/fishing/transport/water (supply); Roads meet/crossroads/nodal point/route focus/road network **for** access/trade; Flat(ter) land/gentle(r) gradient/terraces **for** building/farming/construction; Grassland/pastures **for** (grazing) animals; Above valley floor **to** avoid flooding/dry point site; On valley sides/below slope **for** shelter (from winds); Trees **for** fuel/building; Space/unused/available land **for** expansion/building/farming/grazing animals.	**3**

Question	Answer	Marks
3(b)	Low/declining BR/fewer children; Rural to urban migration/move to urban area/town/city; Lack of/low paying jobs/career/poverty/pull towards jobs/lack of money; Lack of/pull towards services/services close/or example (e.g., (food) shops/health care/education); Lack of/poor/pull towards transport services/electricity/internet/services/communications/sanitation/water supply; Poor roads/remote/long distance to nearby town/city; Decline in demand for labourers/mechanisation/consolidation of farms/exhaustion of soils; Lack of/pull towards high quality/affordable housing/low-cost housing; Lack of/pull towards bright lights/night life/entertainment.	**3**

Question	Answer	Marks
4(a)	Arch; (accept arc) Cliffs/headland; Steep; Undercut/notch (at base of cliffs); Rock layers/strata; Bare rock/rocky/rocks; (Low rounded) hill(s); Shingle/pebbles; Wave–cut platform; Shallow water; Short/small (as in height) vegetation/abundant/lots of vegetation cover/vegetation overhanging/on cliffs/covered in vegetation; Shrubs/bushes/grass/scrub/trees.	**5**
4(b)	Arch/feature A collapses/falls/breaks/destroyed; (Headland) left as a stack/island/stump; Attacked by (strong) waves/wave/marine/sea erosion/waves hitting; Along line of weakness/cracks/fractures/faults; Hydraulic action/corrasion/abrasion/solution/corrosion/description of one erosional process; Causes loss of support/arch widens/cannot hold up own weight; (Biological/chemical) weathering/freeze–thaw (attacks surface).	**3**

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>5(a)(i)</td><td>550 (million metric tons)</td><td>1</td></tr>
<tr><td>5(a)(ii)</td><td>(Overall/2004 – 2016) both increased/the more fertiliser used, the greater the cereal production/positive correlation;

Credit the three sections of the graph without years if the sequence is clear, as follows:

Initial increase in both/2004 – 2008 both increased (at the same rate)/directly proportional;
Fertiliser rate continues to increase/increases 2008/2009 – 2014 whilst cereal production fluctuates/increases at a slower rate;
2014 – 2016 fertiliser decreases whilst cereal production increases/steep decrease vs. steep rise/negative relationship/inversely proportional;
Positive relationship/both increased <u>until 2014;</u>
2008/2009 fertiliser overtook cereal production/2014/2015 crop production overtook fertiliser;
Max 1 data mark for the following:
2004 – 2008 fertiliser 410–420 to 480 kg and cereal production 420 to 490m metric tonnes; OR
2008 – 2014 fertiliser 480 to 560–570 kg and cereal production 490 to 550m metric tonnes; OR
2014 – 2016 fertiliser 560–570 to 500–510 kg and cereal production 550 to 610–620m metric tonnes.

Units used once for each of fertiliser usage and cereal production verifies rest of data mark.
<u>4 correct figures</u> must be used. Figures within given range acceptable.

Allow reference to cereal/crop/cereal crop.

<table>
<tr><td></td><td colspan="2">fertiliser(kg)</td><td colspan="2">cereal production (m metric tonnes)</td></tr>
<tr><td>2004 – 2008</td><td>410–420</td><td>480</td><td>420</td><td>490</td></tr>
<tr><td>2008 – 2014</td><td>480</td><td>560–570</td><td>490</td><td>550</td></tr>
<tr><td>2014 – 2016</td><td>560–570</td><td>500–510</td><td>550</td><td>610–620</td></tr>
</table>
</td><td>3</td></tr>
<tr><td>5(b)(i)</td><td>Provides enough food (for China’s increasing population)/increased yields;
Reduces the amount of fertiliser used/teaches farmers not to overuse fertilisers/can <u>pass on</u> knowledge about fertiliser use;
Reduces environmental impact of fertiliser application/runoff/<u>water</u> pollution;
Reduces the cost of food production/saves on cost of fertilisers/saved 12.2 billion US dollars/saved money.</td><td>3</td></tr>
<tr><td>5(b)(ii)</td><td>High cost (of research and training)/poorer countries/farmers don’t have sufficient funds/cost of fertilisers/don’t have resources/money;
Some rural communities far from training centres/not enough workshops/equipment/access to fertilisers/lack access to training;
Low literacy levels make it difficult for ideas to be understood.</td><td>1</td></tr>
</table>

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Question	Answer	Marks
6(a)	Secondary: 25 (%) accept 24%; Tertiary: 45 (%) accept 46%.	**2**
6(b)	Increasing mechanisation; Depletion of (natural) resources/loss of agricultural land/urbanisation/increase in industry/housing/distribution centres; Increasing imports; (food, raw materials, and manufactured goods) Increasing demand for/increase in amount of services/named e.g., more (disposable) income to be spent on services/example (e.g., in the leisure industry); More leisure time available (so more jobs in tourism); People live longer so more need for services/example (e.g., medical care); advancements in high tech(nology)/ICT; Increase in research and development; Businesses/tertiary industry/companies/R&D requires more expertise/trained labour; Investment by multinationals; Higher level of education/skills/more people trained; Availability of higher paid jobs/fewer physical jobs (e.g., quaternary/tertiary); Tertiary/quaternary sectors/named example (e.g., tourism) earn more money/profit for a country.	**4**
6(c)	Increasing choice of goods/more products available/access to more resources; Lower cost of goods/economies of scale; More jobs (in some countries)/new jobs available/people gain skills; Increased flow of capital/more (international/MNC) investment/increased foreign exchange (forex)/currency/easier to set up MNCs; (allow 'easier' in place of 'more') Decreases cost of manufacturing; Increases GDP/GNP/GNI country's output; Greater customer base for companies/more markets; Access to more varied workforce/skills; Remittances/workers send money back to own country; Higher levels of international tourism (brings in money to invest/jobs); Less barriers to trade/increased trade between countries/more imports/exports/trade agreements between countries/trade costs/tariffs reduced/cheaper trade.	**2**

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